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RADICAL CURE OF INGUINAL HERNIA.

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Dr. W. L. Rodman and Dr. Charles W. Bonney, in an article published in the American Journal of the Medical Sciences takes up the etiology of inguinal herniæ, and I cannot do better than to quote from their article on the anatomical structures that are important in connection with inguinal herniæ. When the anterior abdominal wall is viewed from behind, the following structures are seen: extending from the apex of the bladder to the umbilicus is the urachus, the degenerated embryonic portion of the allantois, also known as median vesico-umbilical ligament. On either side of this median cord there is another extending obliquely upward and inward to join it at the umbilicus. These are the remains of the hypogastric arteries which are patent only during intra-uterine life. They are also known as the lateral vesico-umbilical ligaments. Lying external to these lateral cords are the deep epigastric arteries. These five structures are covered with peritoneum, arranged in more or less well defined folds. In relation with these cords three depressions may be distinguished—one between the urachus and the obliterated hypogastric and the epigastric arteries, and a third external to the epigastric artery. These depressions are known as the internal, middle and external inguinal fossa respectively, and with the exception of the internal one are very important with reference to the occurence of inguinal herniæ. The external inguinal fossa, lying external to the deep epigastric artery, constitutes a weak spot in the anterior abdominal wall. This fossa really owes its existence to the internal abdominal ring, a spot

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in the transversalis fascia through which the testicle pushes its way on its course downward from the abdominal cavity to the scrotum. The formation of the inguinal canal and external ring is best made clear by tracing the descent of the testicle from the abdomen to the scrotum.

The scrotum is formed from the genital swellings into which a little sac of peritoneum is invaginated comparatively early in fœtal life. The inguinal ligaments or gubernacula are also attached to the bottom of this peritoneal pouch. Now, as the fœtus develops, this pouch which in the male is called the vaginal process, and in the female the canal of Nuck becomes more and more elongated, keeping pace with the growth of the genital swellings, until toward the termination of intra-uterine life, probably at about the end of the eighth month, it has formed a sac extending well down into the scrotum. It is to be borne in mind that this sac is placed in front of the testicle before that organ emerges from the abdomen, that it always bears such a relation to the testicle, and that it is not pushed from the anterior abdominal wall by the testicle in the way in which the other layers enveloping that gland and the spermatic cord are displaced. From these considerations, it becomes evident that at a certain stage of fœtal life there is a free communication between the peritoneal cavity and the scrotum. Shortly after birth, probably between the tenth and twentieth day, the vaginal process normally becomes obliterated except as to its lower portion, which surrounds the testicle and forms its tunica vaginalis. Failure of the upper portion of this process of peritoneum to become obliterated constitutes an important factor in the production of congenital herniæ. As the testicle passes through the abdominal wall, it carries in front of it a layer from each of the muscular or facial planes which it perforates. Thus as it comes out of the abdomen at the spot known as the internal ring, it carries a portion of the transversalis fascia along, drawing it down like a funnel. Hence, the name applied to this fascia, infundibliform. From the next stratum of the belly wall, the internal oblique muscle, it takes up a covering known as the cremaster, and as it passes through the succeeding layer, the aponeurosis of the external oblique muscle, it pushes a fascial investment called the external spermatic fascia in front of it.

The spermatic cord occupies and fills up the canal thus made by the testicle in the substance of the abdominal wall. This channel is known as the inguinal canal. It extends from the internal to the external abdominal ring, and in the adult is about

an inch and a half long. It is bounded anteriorally by the aponeurosis of the external oblique, and in its outer third by the internal oblique, posteriorly by the transversalis fascia, superiorly by the arched fibres of the internal oblique and transversalis muscles, and inferiorly by Poupart's ligament. In the adult, the inguinal canal is nothing but a gap in the abdominal wall filled in by the spermatic cord and vessels or round ligament in the female, a certain number of inguinal herniæ, not more than four or five out of every hundred, protrude from the abdomen through the middle fascia or Hesselhach's triangle direct hernia. The remainder come out through the anterior abdominal ring. They traverse the inguinal canal, break through the external ring, and either present above and external to the pubes, or pass downward into the scrotum. A hernia of this kind is known as an indirect oblique hernia, indirect in contradistinction to the one which comes out through the middle fossa or Hesselbach's triangle.

A hernia which passes through the external abdominal ring is called a complete inguinal hernia, one that does not pass through the external ring incomplete.

Etiology. The causes of inguinal hernia may be considered under three heads: 1. congenital defects; 2. natural weakness of the abdominal wall in the inguinal triangle; 3. conditions which increase uretra abdominal pressure..

Congenital defects relate chiefly to faulty obliteration of the vaginal process of peritoneum. Closure of this pouch should be complete by the twentieth day after birth; but in a certain number of individuals closure partly or entirely fails to take place. These persons are always predisposed to hernia. When the vaginal process fails to close and remains open throughout the whole extent, there is an uninterrupted passage from the peritoneal cavity to the scrotum, into which the intestine can readily find its way. Such a hernia is called congenital, its sac being preformed.

The mal-position and non-descent of the testicle are defects which are frequently associated with inguinal hernia. Among conditions which increase the weakness of the abdominal wall may be mentioned as diseases which impair the nutrition of the muscles, such as rickets, systemic maladies, which produce great emaciation. Abdominal tumors which impinge upon the anterior abdominal wall and distend it. Pregnancy which acts in the same way. Accumulation of fat in the omentum and preperitoneal tissues; also tending to stretch the peritoneum; relaxation of the

parietes incident to old age, and repeated efforts in lifting or dragging heavy weights. Tumors, accumulation of fat in the omentum and pregnancy also increase intra-abdominal pressure. Other potent factors in augmenting pressure are: cough, vomiting, straining at the stool or to empty the bladder.

Bronchitis, emphysema, asthma and whooping cough are not uncommonly the immediate exciting cause of hernia.

In regard to age, it may be stated that hernia is most common in childhood and middle life. Berger, who has studied the age incident carefully, shows that by far the largest percentage of cases occur in children; that there is a constant decline until the thirtieth year, after which a steady increase takes place until the fifty-fifth year.

It should not be forgotten, however, that hernia is relatively frequent in old persons on account of relaxation of the abdominal wall, and their tendency to chronic bronchitis; and were it not for the fact that they lead a shielded life, not following laborious occupations, they would probably be more liable to hernia than those in middle life. Berger's statistics also show that double hernia is rare in infancy and frequent in old age, reaching its maximum at sixty-five years.

All admit that inguinal hernia is much more common in males than in females.

There seems to exist to-day very little difference of opinion among surgeons as to the proper operative procedure for the radical cure of inguinal hernia. With very few exceptions, the Bassini operation is generally used. The reason for this general preference for the Bassini operation is doubtless due to the conviction that the Bassini operation rests upon sound and more rational anatomical and mechanical principles than the other operation; all of which were devised about the same time, now about twenty years ago.. Prior to twenty-five years ago, by far the larger number of operations were done for strangulation, which usually followed when the contents of the sac could not be reduced. Nowadays, by far the largest number of operations are done for the cure of reducible herniæs, and there are relatively few cases of strangulation requiring operation.

Many slight modifications of the Bassini operation have been devised and are used by different operators, but the main principles of the operations are maintained. Ferguson of Chicago, omitted transplantation of the cord and vessels 1890, reporting 560 cases with eight recoveries. Aside from the Bassini operation, I will mention only two, neither of which in my opinion

offers any advantage over the Bassini operation: Halstead's operation and Kocher's operation.

In Halstead's operation, the skin incision is oblique and extends from a point over the spine of the pubes, obliquely upward and outward, for about three inches. When the aponeurosis of the external oblique is exposed, the three abdominal muscles and the fascia transversallis are cut through, from the external ring to a point about one inch above and external to the internal abdominal ring. The vas deferens and the blood vessels of the cord are isolated; all but two or three of the veins are excised, sac is opened and closed by suture, so as to leave no pouch of peritoneum, and is cut away beyond the line of suture.

The cord in its reduced form is raised out of the wound to facilitate the introduction of the six or eight mattress sutures which pass through the aponeurosis of the external oblique, and through the internal oblique and transversalis on one side, and through the fascia transversalis, and Pouparts ligament and fibres of the aponeurosis of the external oblique muscle on the other. The precise point at which the cord is transplanted depends upon the condition of the muscles at the internal abdominal ring; the object being to transplant it in the thick muscular tissue. The skin is then closed by buried sutures of very fine silk. The transplanted cord lies on the aponeurosis of the external oblique muscle, and is covered by skin only. In this last feature lies the chief distinction between Halstead's operation and the Bassini. The inguinal canal and both old rings are obliterated by Halstead's method of suture, and the spermatic cord becomes a subcutaneous structure in the fold of the groin.

Kocher's operation: After the usual incision through the skin, the sac is completely separated from the cord and scrotum. A small slit is then made through the external oblique, just outside the position of the external ring. Through this a slender toothed forcep is inserted and pushed down the inguinal canal and out of the external ring, and the sac grasped in the forceps is dragged up through the canal. The sac having been delivered through the slit is twisted on its long axis, and is thus shortened. Silk ligatures are then passed through the pillars of the internal ring in front of the cord and through the external oblique. The twisted sac having been laid down between each row of these sutures, the latter are tied over the twist. This operation does not bring down the conjoined tendon behind the cord so as to reduce the size of the internal ring from within outward, which is the strong point in the Bassini operation.

Bassini's operation, as has been previously stated, is now

widely done all over the world, and the reason for its popularity lies in the fact that it more nearly than any other restores the structures of the inguinal canal to its original condition. It aims at reducing the enlarged internal ring from within outwards, by suturing the conjoined tendon down to the posterior part of Poupart's ligament behind the spermatic cord. This can only be accomplished by first splitting up the aponeurosis of the external oblique from the external ring outwards and upwards to a point above the upper border of the internal ring. The skin incision may be the usual one parallel with Poupart's ligament, or can be made at right angles to the ligament and midway between the two rings. I generally select this incision for the skin in children, as it is farther removed from the gentials and not so likely to become infected with the urine. The aponeurosis of the external oblique is exposed and divided the whole length of the canal. This can be done on a grooved director, or with scissors; but when divided should be caught with catch forceps and held. The sac is now exposed, escaping from the enlarged internal abdominal ring, having the spermatic cord with its vessels behind it. From these structures it is separated, beginning at the highest point possible, as it is easier to separate at a high point than at the lower portion of the sac. If the lower portion of the sac is adherent, it is better to cut through it and leave the lower portion of the sac there adherent. However, if this portion is left, it should not be sutured or closed by ligatures, but should be left open; thus treated it will shrivel up and cause no trouble, while if closed it might be the seat of some serious collection. The sac having been stripped loose from the cord and vessels, it should be tied off at a point sufficiently high so that there can be no dimpling left on the abdominal side.

It being of great importance to secure a smooth surface free from any depression at the point where the neck of the sac is tied off. The cord and vessels are now raised from their bed in the inguinal canal and held up by an assistant with a hook. At this point it will be well to observe the position of the ilio inguinal nerve and push it to one side so as to not include it in the sutures that you are now ready to put in place in suturing the conjoined tendon to the posterior surface of Poupart's ligament. This is the most important step in the operation. As a rule, the lower border of the conjoined tendons is muscular, and if the aponeurosis of the external oblique is separated from the conjoined tendons for about one inch or an inch and a half, above its lower border, the sutures can be passed through the aponeurotic por-

tion of the muscle, then through the posterior border of Poupart s ligament, starting the first suture as close to the pubes as possible from four to six sutures being required as a rule. When the sutures are thus placed, the lower edge of the conjoined tendon is brought down and infolded onto Poupart's ligament, making, I think, a stronger floor than when the lower border of the tendon is caught and brought down against Poupart's ligament; the passing of these sutures must be done with care, as it is possible to injure the vessels lying immediately beneath Poupart's ligament. Some operators prefer to pass the needle always from above downward, thinking by this method there is less risk of injury to these vessels. The last or highest suture should be passed fairly close to the cord and vessels, just leaving enough room for the cord and vessels without danger of strangulation. Dr. Caley uses four sutures above his cord, thus having the cord and vessels pass between two sutures. I usually gauge this space by the tip of my index finger. Care should be taken in tying off the sac, and I think it is better to transfix the neck of the sac after it has been split open, to be sure that it does not contain omentum, intestine or other structures that should not be included in the ligament. If the sac contains a large mass of omentum, and especially if the omentum is adherent to the sac it will be better to ligate and cut it away, and after reducing the stump of omentum, transfix the neck of the sac with a needle threaded with No. 1 plain catgut, which is double, then tie each side, the ligatures made to interlock. I have known one case to lose his life by a circular ligature slipping, and the intradominal hemorrhage from the stump proved fatal. After tying the sac off well within the internal ring and suturing the conjoined tendons to Poupart's ligament, the cord is dropped back onto the new bed that has been made by the conjoined tendons held in opposition with Poupart's ligament. The divided edges of the aponeurosis of the external oblique muscle is now sutured back over the cord and vessels. The catch forcep having been kept in contact with the lower flap makes it much easier to re-unite the divided aponeurosis. A continuous suture is preferable for this, as it gives better apposition with more uniform tension and less danger of strangulation necrosis.

I myself, prefer an absorbable ligature throughout, and use for this purpose, No. 1 catgut, plain and formalized; the formalized being used in the suturing of the conjoined tendons to Poupart's ligament; chromic gut would probably do as well, or any catgut that has been hardened by a chemical process that will make its absorption slow; gut that will last fifteen or twenty days is prefera-

ble. Some prefer the Kangaroo tendon, but I think with the methods now used in the preparation of catgut that in it we have the ideal material for this work, and I can see no necessity for using material of greater size than No. 1 gut, unless possibly in some some very large herniæ, No. 2 size might give better results. The closure of the skin is made by a buried suture of plain No. 1 catgut, started and tied in the superficial fashion at the upper angle of the wound.

And the superficial fascia is first sutured from above downward by continuous suture, and then the subcuticular suture placed from below upward to the point of beginning, where it is tied to the end which has been left long enough to tie, and being fixed beneath the skin; when the knot is tied, it is pulled down beneath the skin. After the skin suture is placed, the wound is covered with a thin layer of sterile absorbant cotton and over this is applied cullodion, thus sealing it up. Adults and especially children are apt to get their fingers under the dressings and infect the wound; for this reason, I always use the collodion cotton dressing; then over this a few layers of sterile gauze, with a layer of absorbant cotton and a spike bandage applied so as to support the testicles. Or. I have found a small pillow placed between the thighs to answer very well as a support to the testicles.

Dangers in the Operation; In the direct inguinal herniæ—where the herniæ breaks through internal to the deep epigastric artery in the space known as the middle fascia or Hesselbach's triangle, we are more likely to have the bladder dragged into the sac, as the parietal peritoneum being deflected onto the bladder from the belly wall. It is possible to drag the bladder into the hernial sac by putting too much of the sac down before tearing it off.

In the February number of the American Journal of the Medical Sciences, 1910, are reported two cases in which the ureter was contained in the sac of an inguinal herniæ. While this is a very rare condition, yet it may occur alone or be accompanied by a cystocele or herniæ of the bladder, and have been encountered in both inguinal and femoral herniæ; and if the ureter can find its way into a hernial sac, anything within the abdomen might be expected—the ovary and fallopian tube. Wounding the bladder is not a very serious accident—if recognized and repaired.

Conclusions. The treatment of inguinal hernia must be either mechanical or operative. While not denying the fact that in certain cases the mechanical or truss treatment may be of ad-

vantage, yet I think with the present uniformly good results that are now obtained by operative procedure, that we should advise operation in all cases between the age of two and sixty years of age, unless for some very good reason such as the person be suffering from some chronic ailment, such as diabetes, chronic interstitial nephritis, or valvular disease of the heart, when operation as a rule should not be considered. All others should, as a rule, be promptly submitted to operation. Even those who fear a general anesthetic can be operated upon under cocaine or other local anesthetic.

In view of the uniformly good results and the very small per cent. of mortality attending these operations, it would seem utterly absurd at the present time for any physician to advise the young adult or middle aged man or woman, or even one in youth or old age, to wear a truss, rather than submit to an operation; and I believe that the tendency at the present day among physicians is to advise operation rather than the treatment by truss.

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REVIEW OF THE RECENT LITERATURE ON THE RELATIONS BETWEEN DIABETES AND PREGNANCY: WITH THE REPORT OF THREE CASES IN WHICH FERMENTABLE SUGAR APPEARED IN THE URINE DURING THE LATTER MONTHS OF GESTATION AND DISAPPEARED IN A FEW WEEKS AFTER DELIVERY, AND THE EFFECT OF DIABETES IN THE MOTHER UPON THE NEWBORN BABE: ESPECIALLY DURING THE FIRST DAYS AFTER BIRTH.

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1. "The Relations Between Diabetes and Pregnancy,"—Augustus A. Eshner. Transactions of the Association of American Physicians, 1907, vol. 22.

2. "The Clinical Significance of Glycosuria in Pregnant Women,"—J. Whitridge Williams. The American Journal of the Medical Sciences, Jan. 1909, vol. 137.

3. "Glycosuria and its Relation to Pregnancy," A review of recent Literature. Hugo Ehrenfest. Interstate Medical Journal, March 1910, vol. 17.

Much has been said during the last few years regarding the "toxæmias of pregnancy," but very little has been written by

American authors, either in journals or text books, up to the present time upon this subject.

During the time that I was enjoying this excellent series of cases (December 1906 to July 1907) I was impressed by the conspicuous need of the development of study and report of this class of cases.

Eshner (1) took the subject up fully in 1907, and J. W. Williams (2) in 1909. I made frequent inquiry and diligent search, but it was some little time after my struggle and unscientific efforts before I was able to get hold of their excellent articles with the reviews of the various opinions offered from 1856 down to the present time.

The significance of the presence of milk sugar in the urine, known as "lactosuria," and of glucose in the urine, known as "glycosuria," has been badly interpreted. Lactose will reduce Fehling's solution, but will not ferment. Glucose does both. A combination of the two is not infrequently encountered. You may have a high reducing reaction and a low fermentive value, according to the proportion of glucose. Certain writers regard it as harmless, almost a physiological phenomenon. W. Blot, in 1856, found in the urine of all parturient and nursing women, in that of about half of all pregnant women, a reducing substance that he considered sugar, and he thought the phenomenon related directly to the secretion of milk. Leconte (1) 1857, contended that it was not sugar but uric acid. T. Kirsten (1) 1857, agreed with Blot that it was sugar, while E. Brucke (1) 1858, claimed that normal urine almost constantly contained traces of sugar and that the urine of puerperal women may contain even large quantities. A. Hempel (1) 1875, concludes that sugar appears in the urine of puerperal women only as the secretion of milk becomes active, and that the amount is proportionate to the degree of development of the mammary glands and the duration of the stasis of the secretion in the breasts.

L. Hofmeister (1) 1877-78, found the reducing substance actually to be lactose. J. Ney (1) 1889, examined the urine of 148 nursing and 24 pregnant women and found sugar present in 80 per cent of the former and 16½ per cent of the latter, the condition was especially associated with an abundant secretion of good breast milk. G. Klein (1) 1898, found sugar in the urine of 80 per cent of 25 nursing women and in that of but 4 of 19 pregnant women. He considered the condition physiological in the nursing, and pathological in the latter. Among 125 women between the seventh and ninth month's of pregnancy, M. Bro-

card (1) 1898, found sugar in 50 per cent; glucose predominated' but milk sugar appeared as lactation was approached. F. Lang (1) 1895, found the power of assimilating carbohydrates greatly diminished in pregnant women, as shown by the presence in 19 out of 30 cases from the fourth month onward, of grape sugar in the urine within six hours after the administration of 100 grammes of the same. A. Payer (1) and J. Hoffbauer (1) 1899, found the assimilative power for carbohydrates progressively reduced from the second month, on, and the farther advanced the pregnancy the more readily could alimentary glycosuria be induced. H. Ludwig (1) 1899, contended that the organism of a healthy pregnant woman reacts upon polysaccharids in the same way as does that of a non-pregnant woman. Lacorche (1) 1885, called attention to the fact that diabetes in women occurs especially before puberty and after the menopause, but that its infrequency during the child bearing period is fully compensated for in gravity, when it does occur during that time, fortunately then, the greater number of diabetes among women come on after the climacteric. Men are more prone to diabetes than women, the proportion being about eight men to three women. T. B. Futcher gives it four men to three women.

There is one other factor that has a tendency to reduce the percentage of diabetes in pregnancy, that is to say sexual indifference and sterility, due to associated constitutional debility and atrophy of the internal generative organs. Pregnancy has been observed to occur although often interrupted by abortion. J. Seegen (1) of Berlin, found amenorrhea an uncommon symptom in diabetes and he has observed normal menstruation even in severe cases up to within a week before death. C. Von Noorden (1) in 1898, said that there is no general rule as to the occurrence of menstruation in this disease, and that pregnancy and the puerperium have no unfavorable effect on the diabetes, as illustrated by five diabetic women under his care who became pregnant. He admits that in severe cases sexual desire is diminished and sterility is liable to be present and advises against the marriage of young women having diabetes, as the disease is serious under such circumstances. G. E. Herman (1) 1902, of Edinburg, favors the early termination of pregnancy, as offering the greatest probability of benefit, to the mother, especially if hydramnios be present. According to J. W. Williams (2) 1909, observations based upon the histories of 66 definite cases of diabetes in pregnant women, which he collected from the literature, show that in 55 instances the disease was present before the oc-

currence of the pregnancy in question, while in the remaining number it made its first appearance after conception. In this series no case was classified, as diabetes unless the characteristic urinary changes persisted after puerperium, for had the ordinary cases of glycosuria been included it is quite probable that the relationship would have been reversed.

Upon reviewing the literature on the subject, it is apparent that diabetes must be regarded as a serious condition, no matter whether occurring primarily, or as a complication of pregnancy, as is shown by the following figures: Thus Chapiet, Stengel, Rouff and Vinary reported a maternal mortality of 25, 26, 46, 55, per cent, respectively, in four tabulations which included 68, 19, 28 and 34 cases. Williams' (2) own statistics, which are based upon 66 cases collected from the literature, show an immediate maternal mortality of 27 per cent, while an additional 23 per cent of patients died within the following two years.

The fœtal or infant mortality has been given by the various authors from 27, 47, 48, 50 and 53 per cent. Hydramnios, excessive development, and monstrosities, are a few of the interesting complications. Another thing of interest is that in more than one half of the cases the amniotic fluid was found by chemical demonstration to contain sugar. This phenomenon, obtained in glycosuria of pregnancy as well as in true diabetes.

One author found glycosuria in a child born of a diabetic mother. Offergeld (2) showed that both the blood and urine of an unborn child contained glucose, therefore the question arises whether the latter has been transmitted through the placenta or indicated the existence of fœtal diabetes. After the report of my own three cases, I will take this up further.

Case 1. Mrs. F. R. D., age 36, pregnant for the fourth time; at six and one half months developed the following subjective symptoms: pruritus vulva, heart-burn, sour eructations, polyuria, great thirst, feeling of general fatigue, insomnia and anorexia. Urine showed decided reduction with Fehling's solution. Fermentation revealed one to two grs. of sugar to the ounce of urine. Albumen negative.

Physical Examination. A very much emaciated woman of slight build, small amount of icteritious discoloration of the sclera and skin; tenderness on deep pressure over the pancreas, some enlargement of the thyroid gland.

I cared for her during a normal gestation and tedious yet natural labor and uneventful puerperium, three years before. She has never in her life been able to digest any very great quantity

of fat. Lean beef would excite diarrhea, and for the past eighteen or twenty months preceding this last pregnancy, she would have large hemorrhages from the bowel just at the close of her menstrual periods.

She was placed upon a diet of cream and milk and baked potatoes. The urine was free from sugar in three weeks. At the seventh month there were grave fears and signs of miscarriage, which was averted by absolute rest in bed and morphine. At the eighth month, patient was delivered of twins, both breech presentations, weighing three and a half and four and three quarter pounds respectively. A large amount of liquor amnii accounted for the excessive size that was marked in this case from the sixth month. The larger child, which was delivered one hour later, was malformed, but not macerated, and died two hours after birth. The surviving one was placed in an improvised incubator and did nicely for two weeks, but at the end of one month weighed but three pounds, showing a loss of one half pound. We realized that the mother's milk was insufficient, so placed him upon modified cow's milk, alternating with the breast every one and a half to two hours, with the resultant gain in weight of two ounces in the first week. It took great care, and the little one had many narrow escapes during the first six months, and he was hardly more than three fifths the normal size when he was one year of age. This child had not the symptoms of infantile hyperglycæmia, the stools never showing evidences of sugar excess, but they did show fat and proteid indigestion.

The mother made a very satisfactroy recovery; urine did not show a positive sugar reaction after delivery and many subsequent examinations during the next three and a half years failed to give a positive reaction; the bronzing of the skin slowly but gradually improved and was normal by two years later. The hemorrhage from the bowel reappeared, but not so frequently as before, then disappeared for eighteen months and then recurred. Patient gained flesh and strength and is now about as nearly normal as at any time during the last ten years.

Case 2. Mrs. M. I,. T., age 24 years, pregnant for the second time. The first pregnancy resulted in miscarriage at the sixth month, and, judging from the study of her conditions during the second gestation, the same severe suffering and nervous upset combined to lead up to the trouble in the former instance and persuades me that the miscarriage was due to glycosuria, although preceding by five years the pregnancy now under discussion, and no examination for glycosuria was then made.

The urine during the second gestation was examined from the third week on, and was negative the third week. Nausea and vomiting were so troublesome at the sixth and seventh weeks that the morning meal was taken in bed. The urine reduced Fehling's solution the tenth week. A diet of milk, baked potatoes and oatmeal was prescribed. Thirteenth week, fermentable sugar one and a half grains to the ounce of urine. Fifteenth week, no sugar and no albumen.

Twentieth week, no sugar and no albumen. Twenty-eighth week, urine negative. Blood pressure 110 m. m.

Two days later patient complained of feeling badly. Urine submitted for examination. Specific gravity 1030. Sugar was present.

The thirty-second week urine was free from sugar and, before leaving home for the A. M. A., meeting at Atlantic City, instructions were given regarding the diet and that a specimen of urine be taken to a local physician for analysis each week, which was done, but whether these specimens were examined for sugar or not I am unable to say. On my return home I found that patient had been delivered of a six pound child, eighteen days prematurely, labor short, natural and easy. On the eighth day after delivery I was called and requested to take charge of the babe as it had not done well any of the time since birth. It was wakeful and crying aloud almost incessantly, the bowels discharging frequently a greenish foamy substance. The weight had gone down to five and a half pounds. The character of the infant stools caused me to direct my attention to the mother. The mucous membrane of her mouth and tongue was very dry. Great thirst and polyuria were very marked. Pulse 120. On examining, found enlarged thyroid. The urine was not examined.

She was put upon plain milk diet. Medication. Hypophosphites. She improved rapidly and by eight or ten days her pulse was 80. Babe was taken from the breast and fed modified cow's milk, and given alkaline elixir rhubarb and potassium. It began to improve at once. Slept 20 hours of each 24 and in five days had gained one half pound. We returned infant to mother's breast when three weeks old and had no further serious trouble, except babe was prone to slight attacks of indigestion, but it made a steady gain and was fully three quarters the normal size when one year old.

Two and one half years have elapsed without any return of glycosuria in the mother.

Case 3. Mrs. W. H., age 28. Fourth pregnancy. Had always

been strong and well. No miscarriages. Began complaining the seventh month of pruritus vulvæ, thirst polyuria. Previous specimens of urine had been negative both for sugar and albumen, but now sugar was present, one grain to the ounce. Plain milk and baked potato diet cleared the urine of sugar in two weeks. Sweets only, were restricted from her diet from this time forward, otherwise a liberal diet was allowed and all subsequent urinary examinations were negative for sugar and albumen.

A seven and a half pound male male child was born at term, labor normal, puerperium uneventful, and no return of sugar during the two and one half years that have elapsed since this pregnancy.

The babe was normal at birth. No food or water was given him during the first 24 hours, at the end of which time I found him with a rectal temperature of 104. bowels discharging frequently a greenish foamy stool; infant restless and colicy. A typical picture of the older artificially fed babe who has had diet far too rich in sugars.

The question now arose, from whence came this sugar?

I gave the baby a mercurial purge, saline enemas and soda bicarbonate, one grain every three hours. We commenced elimination and neutralization on the mother at once and she was given a milk diet. Infant was much improved by the end of the next twenty four hours and was allowed the breast on the third day. He did better than the other two, but was not quite up to the standard in development when one year of age.

The liquor amnii has been found to contain sugar in more than fifty per cent of all cases of maternal glycosuria. Sugar is found also in the blood of infants and fœtuses born of diabetic mothers.

I believe that these symptoms in the newborn, which are identically the same as those found in older babies to whom have given sugars in excess of their normal requirements, can be thus explained, and upon this hypothesis it was, that I carried out my treatment.

1st. By cutting off the mother's milk, believing it to be ladened with a higher percentage of sugar than normal and to contain acetone bodies and thyroid secretion. Whether the mother does throw off these active principles through her milk is a question I have been unable to determine, and in my search through the literature I have been unable to find anything regarding it. But we are fully aware that many of the poisons are eliminated in this way. I think it entirely plausible.

2nd. After cutting off the supply and getting rid of what we

have by neutralization, by the administration of alkalies, such as the sodium and potassium salts, and by purgation.

3rd. By feeding the infant a food as nearly the proportion of normal mother's milk as possible. This is hard to do. J. S. Fowler of Edinburg, likened mother's milk to a "Vital Fluid" and it probably possesses certain biochemical properties which are specific in the milk of every species.

From what is known concerning immunity, it is believed that the body cells take up food molecules by specific side chains, and probably, therefore, the milk of the parent animal contains its nutritive elements in a form especially adapted for easy assimilation by the side chains of the offspring. Whatever may be ultimately discovered as to the exact state of affairs, it is quite certain, however, that the variations in the milk of different animals are not purposeless but serve definite requirement in developing the digestive organs of their young. The milk of the first few days after delivery, known as the colostrium, is especially rich in the bodies known as the antigens; these are substances which have the power of stimulating the tissues to produce specific antibodies of the class of agglutinins and precipitins. Hanger has shown that the blood of the newly born calf contains no antigens, but that they appear in it within a few hours after suckling. If however, the calf be fed from the first on the milk of a cow which has been delivered a week or two earlier, it gets almost no antigens for these are scanty in the milk of the later period of lactation in comparison with the colostrium.

Some recent experiments of Moro are interesting as suggesting that maternal nursing is especially important during the early days of life. If guinea pigs be separated from their mother at birth, without ever having keen suckled, and put beside a nonlactating animal, so that they are otherwise under natural conditions, 80 per cent die, no matter how carefully they are fed by hand. Of animals suckled for one day, 60 per cent can be reared artificially, and of those which are suckled from two to three days, 90 per cent can be reared.

Milk, therefore, is a fluid endowed with marked varied properties and as a preliminary to studying the artificial feeding of infants, it is necessary to consider fully the most common substitute food—cow's milk—I therefore select a cow in which the time of lactation coincides as nearly as possible to the age of the infant; by all means never select a cow that is pregnant.

My formula: Fat 2.5 to 3; Proteid, 1 to 2; Milk sugar. 4 to 6; Lime Water; Plain boiled water, q. s. 100.

In Case 1, mother's milk was insufficient, yet not poisonous.

In Case 2, mother's milk, until we had rid her of her diabetic condition and hyperthryoidism, was poisonous.

In Case 3, babe was born it seemed with the poisonous principles in his blood, liver and intestinal canal. He could have swallowed in utero enough of the sugar ladened liquor amnii to have produced within his intestinal tract the conditions as related.

Turning again to the maternal side, the kidney is only impermeable to sugar when its percentage in the blood is not above a certain limit; this limit of percentage in the normal individual is about 1 to 1000, instead of 2% 3% or 4% as formerly taught. The normal pregnant woman's organisms react upon polysaccharids in the same way as do those of the non-pregnant. That the liver is unable to make use of normal amounts of sugar during pregnancy is conceded by Eshnes, Lanz and others. That there is an increased permeability of sugar in the kidneys is an open question. That there are changes in the blood, thyroid, liver, nervous system, kidneys, etc., during pregnancy, is certain.

Blood. Leucocytosis, decrease in the albumen content, and increase in fibrin as is shown by the frequency of the thrombotic affections accompanying pregnancy and puerperium.

Thyroid. Hypertrophy is common in a vast number of normal pregnancies and very much more common accompanying diabetes in pregnancy. There is a reciprocal relation between the thyroid gland and the pancreas, between hyperthryroidism and diabetes, either is made worse temporarily or permanently by the supervention of the other.—Case 2 was an example.

Liver. Takes on fatty changes.

Kidney. Becomes more permeable to albumen, without characteristic structural changes.

Nervous System. With the changes in the nervous system you are all familiar and they may be credited to the account of faulty metabolism toxemia.

Then, in conclusion, I beg to submit that I do not believe that we are far enough advanced to lay this complete syndrome at the door of any one particular organ.

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ACUTE NEPHRITIS, A SEQUELA OF TONSILITIS.

R. C. HARNER, M. D., Green, Kansas.

Read before the Kansas Medical Society, May 5, 1910.

The cases herein described are not materially different from

those of acute nephritis following other infectious diseases; as typhoid, pneumonia, diphtheria, and scarlet fever.

The consideration of the subject, then, resolves itself into a study of acute nephritis, bearing in mind that the tonsils are at times foci of nephritic infection.

Etiology. Given a primary focus of disease, the lymph channels and the general circulation may convey pathogenic bacteria to the kidney causing acute nephritis. More commonly, however, the cause is found in the toxins of the primary disease. These toxins circulating through lymph channels and blood stream seriously damage the walls of these vessels themselves and the neighboring connective tissues, but the greatest damage is done to the parenchyma of the kidney.

The effect of toxins on walls of blood vessels and lymph channels in all likelihood gives rise to hypertension and to edema. Probably the same poison acting on the glomeruli and on the tubules of the kidney permits the escape of albumen from blood serum to urine.

Thus we find that poison of some sort is causative of edema, of hypertension, and of albuminuria.

About the same degree of uncertainty attends our search for the specific cause of uremia. As nearly as I can come to it, is to state that uremia is caused by a a retention of products of nitrogenous metabolism. Whether the products retained result from normal or from abnormal metabolism is not known. In the words of Musser: "Of the nature of the substance retained we know nothing."

Pathology. There is congestion and swelling of the kidneys. Degeneration, necrosis, and exfoliation of cells occur in the glomeruli, the capsules, and in the tubules.

The blood vessels become leaky. The capillaries of the general circulation permit the escape of serum into the connective tissue spaces causing the edema. The glomerular tuft and the tubules permit albumen and leucocytes to exude from blood stream to urine.

Evidently, normal lymph circulation is greatly disturbed, though the nature of this disturbance is not clear. Wells claims that lymph circulation is short circuited, and at the same time admits that, "There is an extraordinary lack of easily obtainable information concerning the physiology and pathology of circulation of tissue lymph."

McFarland makes these interesting observations concerning the microscopic lesions: "In scarlatina and a few other

conditions, mostly infectious in nature, the glomerules suffer serious damage, partly from intoxication and partly from colonization of micro-organisms in the capillaries and in the glomerular spaces. Under these circumstances the epithelial and endothelial cells degenerate, round cells infiltrate the tuft and the partly destroyed glomerule becomes surrounded by a mass of exudate that fills the glomerular space and sometimes extends through its neck a short distance into the tubule. This constitutes the glomerular nephritis. The true parenchyma of the kidney, the uriniferous tubule, is most prone to morbid change. It seems doubtful whether any one dies of disease without some kind of toxic disturbances of the tubular tissue of the kidney." Except in a few cases of sudden death from accidental injury, McFarland feels that he has never seen normal human uriniferous tubules. The changes pass through the whole gamut of cellular degeneration from the simple cloudy swelling to complete fatty metamorphosis and disintegration.

Case Reports. The following cases were seen during a neighborhood epidemic of tonsilitis in Nov. 1908.

Case 1. Nellie B. aged 23 years had severe follicular tonsilitis. The 11th day of the disease there was extreme cervical glandular involvement and a temperature of 104. The 14th day face and hands and ankles were edematous. Urinalysis showed a sp. gr. of 1020, acid, no sugar, no indican, and a moderate amount of albumen.

Case 2. Mary D. 7 years of age had a mild attack of tonsilitis. The 15th day swollen face and hands and ankles appeared. Urine, 1018, acid, no sugar, no indican, albumen present in small quantity. Recovery with disappearance of albumen the third month.

Case 3. Olin H. aged 7 years had very mild tonsilitis Nov. 1st, 1908. The 14th day general dropsy was noticed. Dropsy soon became extreme. The 22nd day patient suffered severe headache and blindness followed in one or two hours by uremic convulsions. These were clonic in character and localized to the lower limbs. The 24th day liver enlargement to fully three fingers below costal arch was observed. At this time abundant clay colored stools were voided. Improvement set in the 26th day, going on to full recovery. The dropsy disappeared in three weeks. The albumen remained longer, not going entirely until the third month. There has been no recurrence.

Having had in the same month of the same year these three

cases of post tonsilitis nephritis, I regarded the experience worthy of discussion before this body of physicians.

I wish to observe here that this nephritis is not properly a complication, but rather a sequela to the tonsilitis; having occured about the 14th day following the initial tonsilitis, and when the tonsilitis symptoms had subsided for several days.

I desire to say further that two of these were mild cases of tonsilitis, and that the mildest tonsilitis was followed by the severest nephritis. The dangerously ill patient had a greatly enlarged liver and clay colored stools, in these two respects differing from any case described in the literature to which I have had access.

Treatment. The foregoing cases were treated by rest in a warm bed, a liquid diet, and frequent warm sponge baths followed by friction. Medicinally, by calomel and podophyllin sufficient to produce four or five copious stools daily.

For controlling the convulsions there was given potassium bromide and chloral hydrate per rectum. And while waiting for effects of these drugs, chloroform inhalations were administered. All three cases recovered.

Prophylaxis in acute nephritis is of utmost importance, and these cases serve to illustrate the dangers of a simple sore throat.

The kidneys should be guarded in measles, grip, and tonsilitis as well as in diphtheria and scarlet fever. A patient with either of these ailments should go to bed. I am in the habit of telling my tonsilitis patients to stay in bed at least till the fever is gone. Better stay longer. It is a saving of time to take care of one's self during even these simpler ailments. He who has grip, measles, or tonsilitis and keeps a going, takes big chances.

The following from our school laws should be rigidly enforced: "No pupil infected with any contagious disease shall be allowed to remain in any school room while so infected." and contagious disease should invariably be construed by those in authority to include these milder infections as well as the more severe.

The subject of chloride retention as a cause of nephritis is still under consideration. Enough has been ascertained experimentally and clinically to justify the restriction of salt in the treatment of nephritis, whether of the chronic or acute variety.

Iron is very serviceable in the later treatment of acute nephritis. Musser claims iron to be a very valuable agent in relieving the anemia, the hypertension and the cellular degeneration; giving it for these purposes over a considerable period of time.

Water is the best diuretic, and should ordinarily be given in addition to foods allowed. The nearest the amount can be estimated for an average case is to give not less than 1500 c. c. total liquids daily, a large proportion of which should be water.

Permit me to quote Billings on this topic. "The individual patient must be studied to properly regulate the desirable and useful amount of fluid intake. The young patient with fairly preserved elastic arteries and fairly balanced heart may take fluids freely, with resulting polyuria, diminished toxemia and general improvement including lessened arterial tension. On the other hand the patient with advanced arterial disease, a beginning dilatation of the heart, or one who has had capillary hemorrhages, subcutaneous, submucous, or retinal, will surely become seriously worse by a too liberal intake. I have proved this at the bedside. Individualization must be observed; the individual and not the disease must be treated."

Resume. In concluding this paper I wish to summarize the ideas here presented as follows:

1. In the main, toxins of one sort or another are responsible for acute nephritis.
2. Toxic effects are seen in pathologic cells, pathologic blood, pathologic circulation both of lymph and blood. However, the acme of pathologic process is seen in the parenchyma of the kidney.
3. Edema though moderate in degrees calls for vigorous treatment.
4. The most approved treatment is by rest in a warm bed, by a liquid diet so small in quantity as to border on starvation, and by active elimination of toxins by way of skin and bowels.
5. The simpler throat affections require that the vital organs be carefully guarded. Here as in many other diseases, prophylaxis is a most important consideration.

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Do not pronounce a lesion true cancer, or carcinoma, under the mistaken idea that it is an epithelioma or a rodent ulcer. There is one ulcerative cutaneous affection, that very closely simulates epithelioma, which is known as blastomycetic dermatitis. It has a tendency to spread, both horizontally and vertically, and is also painful to a marked degree. The blastomyces may be found, and demonstrated in the lesion, and it is well to be ever on the lookout for this process which, up to the present time has been comparatively rare. A number of cases have been reported, so far.—American Journal Dermatology.

THE JOURNAL
OF THE
Kansas Medical Society.

JAMES W. MAY, - - - - EDITOR.

ASSOCIATE EDITORS: J. E. SAWTELL, CHAS. S. HUFFMAN, O. P. DAVIS.

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The Journal was established in June, 1901, by a publication committee at Topeka. In May, 1903. Dr. G. H. Hoxie was elected editor and served four years. In January, 1904, it incorporated the Wichita Medical Journal, owned by Drs. W. H. Graves and G. K. Purvis, and the Western Medical Journal, owned by Dr. A. J. Roberts, of Ft. Scott. In March, 1908, it incorporated the Wyandotte County Medical Journal owned by Dr. James W. May. It is now printed in Kansas City, Kansas, and appears the first of every month. Correspondence should be addressed to the editor. Editorial office. 501-2 Husted Bldg., Kansas City, Kans.

LIST OF OFFICERS. President, O. P. Davis, Topeka; 1st Vice-President M. F. Jarrett, Ft. Scott; 2nd Vice-President, J. T. Axtell. Newton; 3rd Vice-President, G. W. Jones, Lawrence; Secretary, Chas. S. Huffman, Columbus; Treasurer, L. H Munn, Topeka; Librarian. S. G. Stewart, Topeka

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EDITORIAL

Many an irreparable fracture has been the result of jumping at conclusions.

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Since the United States Census Bureau has shown that the death rate for 1909 was much less than any previous year it is up to the Christian Scientists to assume the responsibility for the decrease.

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There has been a movement in and about Kansas City to secure reciprocity by the boards of Medical registration representing Kansas and Missouri. This should certainly be accomplished as both states have practically the same requirements, and one examination should be sufficient. It is to be hoped that the time will soon come when a registration in one state will entitle one to practice medicine in any part of the United States. Of course the laws of the different states must not conflict, but must be modeled upon similiar lines.

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Dr. Herman E. Pearse, President of the Missouri State Medical Society, has been making talks to the laity throughout the state upon subjects pertaining to preventative medicine. This is an excellent plan and should be followed by other states. While it is not always possible to get the president of a society to leave his own

field of endeavor, still there is always some one who has the power of speech and thought who can be pressed into service. Some county societies in our own state have been holding public meetings for the benefit of the laity and they have always given evidence of much good. There is much to be taught and the efforts should be continuous and the benefits will be manifold.

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NEWS NOTES

THE NORTHEAST KANSAS MEDICAL SOCIETY WILL MEET AT LEAVENWORTH, OCTOBER 27TH. A FINE MEETING IS PROMISED. THE SESSION WILL BEGIN AT 1:30 P. M.

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Dr. G. R. Waite has opened an office at Kiowa, Kansas.

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Dr. D. E. Kisecker, of Caldwell, Kansas, is spending October in the mountains.

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Dr. Lloyd D. Clary has purchased the office and fixtures of Dr. H. B. Morton, at Elbing, Kansas.

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Dr. K. B. Ford, of Wichita, has gone to Clifty, Ark., where he will stay a year on account of his health.

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The next examination of the State Board of Registration will be held at Topeka, Kansas, Oct. 13th, 1910.

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Dr. E. E. Haynes, of Lewis, Kansas, has been elected director for the Southwestern Division of the North American Esperanto Association.

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Dr. George H. Brown, a practitioner of Chanute, Kansas, for more than thirty-five years, has given up practice on account of ill health and has moved to Kansas City.

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Dr. P. D. Hughes, of Kansas City, Kansas, has returned from Ft. Wayne, Ind., where he spent August and September. He made the trip both ways in his automobile.

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The Kansas City Medical Index-Lancet will be merged with the Medical Herald of St. Joseph, Mo., on Jan. 1, 1911. Dr. Chas. Wood Fassett, of St. Joseph, and Dr. S. Grover Burnett, of Kansas City. Mo., will be the editors.

Dr. Franklin H. Redmond has resigned his position on the medical staff of the State Hospital at Osawatomie.

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The contract for building St. Luke's Hospital at Wellington, Kansas, has been let. The cost is to be $17,000. The building is to be three stories and a basement with brick construction. This hospital is one which a city much larger than Wellington could be justly proud and represents ten years work in getting together the funds for its construction. .

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The following is a list of the committees appointed by President O. P. Davis, for the ensuing year: Public Policy and Legislation, J. E. Sawtell, Chairman, Kansas City; W. E. McVey, Topeka; A. D. Jones, Wichita. President and Secretary Members Ex-officio Scientific Work—Chas. F. Huffman, Chairman, Columbus; J. W. May, Kansas City; O. D. Walker, Salina. Dr. J. E. Sawtell, Kansas City, appointed to represent Kansas on the National Council of Health and Public Instruction.

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Death Rate for 1909.—The death rate in the registration area of the United States for 1909, is lower than that for any previous year; the U. S. Census bulletin on mortality statistics gives the death rate, based on the provisionally estimated population for that year, as 15 per thousand, as against 15.4 for 1908. The bulletin states that is it evident that an era of low mortality has begun and cites the fact that the death rate in England and Wales for the same year was 14.5, and for London was 14. This latter fact demonstrates the fallacy of the idea that high death rates are necessarily found in large cities. The largest number of deaths returned for any month of 1909 was 70,093 for March, and the month having fewest deaths was June. The registration area comprised 55.3 per cent of the estimated population for that year.

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SOCIETY NOTES.

The American Association for the study and Prevention of Infant Mortality will hold its annual meeting in Baltimore, Nov. 9-11.

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A county Medical Society was recently organized in Harper County and the following officers were elected: C. J. Callender, President; A. H. Barber, vice-president, W. E. Regier, secretary and treasurer.

The Northeast Kansas Medical Society will hold their semi-annual meeting at Leavenworth, Oct. 27th, in place of October 13th, the latter date conflicting with the Southwest Medical Society which meets at Wichita October 11-12th. Physicians who are not members are cordially invited to the meeting and the Leavenworth doctors insure a good time for all.

The forenoon will be spent in an auto trip to the Fort, Soldier's Home, and the large prisons. Following is the program: Rabies and its Treatment, Dr. A. B. Jeffrey, Topeka; Cold Abscess,—A Few Remarks, Dr. Hugh Wilkinson, Kansas City; Gall Stones, Dr. C. J. McGee, Leavenworth; The Doctor, Dr. E. J. Blair, Lawrence; Tonsil Operations, Dr. J. E. Sawtell, Kansas City; Embryology of Teratomata, Prof. C. E. McClung, Lawrence; Chronic Interstitial Nephritis, Dr. P. B. Matz, Soldier's Home; Stricture of Uretha, Prognosis and Treatment, Dr. S. G. Zinke, Leavenworth; Paper, Dr. J. Roy Mains, Whiting; Paper, Dr. G. W. Jones, Lawrence.

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Mississippi Valley Meeting.—At the thirty-sixth annual meeting of the Mississippi Valley Medical Association, held in Detroit, Sept. 13 to 15, the following officers were elected: President, Dr. Robert H. Babcock, Chicago; vice-presidents, Drs. Arthur D. Holmes, Detroit, and Charles E. Barnett, Fort Wayne, Ind; secretary, Dr. Henry Enos Tuley, Louisville, (reelected); and treasurer, Dr. S. C. Stanton, Chicago, (reelected.)

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The International Medical Association for the Prevention of War will hold its first congress, in Paris, some time in 1911. Applications for membership should be addressed to Dr. J. A. Rivierie, President, 25 rue des Mathurins, Paris, France; or to Dr. George Brown, Secretary of the American Section, 312 Austell Building, Atlanta, Ga. Among the list of vice-presidents are found the names of Drs. James Tyson, Philadelphia; C. H. Hughes, St. Louis; Howard A. Kelly, Baltimore; and Franklin H. Martin, Chicago.

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Following is the program of the October meeting of the Golden Belt Medical Society held at Junction City, Kansas, Oct. 6th, 1910: Paper—"Unconventional Treatment of the Puerperium," Dr. J. D. Riddell, Enterprise; Discussion—Opened by Dr. E. L. Simonton, Wamego; Paper—"An Unusual Tumor of the Back in a child Five Months Old," Dr. H. E. Pearse, Kansas City, Mo.; Discussion,—

Opened by Dr. R. C. Lowman, Kansas City., Mo. Paper—"Acute Eye Injuries," Dr. E. E. Hazlett, Abilene; Discussion—Opened by Dr. A. G. Anderson, Salina; Paper—Dr. H. L. Alkire, Topeka; Discussion—Opened by Dr. J. D. Colt, Manhattan; Paper—W. H. Carr, Junction City; Discussion, Opened by Dr. W. A. Smiley, Junction City.

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In cases of ischiorectal abscess extending down to the rectal wall, it is generally advisable to abstain from opening into the bowel and establishing a fistula, with its disagreeable features. If properly drained, many of these abscesses will heal without perforating into the rectum.—International Journal Surgery.

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In cases of severe injury demanding amputation it is often advisable to defer operation for twelve to twenty-four hours, until the patient is in a better condition for the anesthesia. To operate immediately on patients addicted to alcohol and with full stomachs, greatly increases the risks of pneumonia, nephritis or embolism after etherization.—International Journal Surgery.

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Medical Society of the Missouri Valley.—The annual meeting of the society was held at Council Bluffs. The oration in surgery was given by Dr. Norvelle Wallace Sharpe, of St. Louis, who presented a lecture on fractures of the femur, illustrated by skiagraphs and drawings. Dr. George Howard Hoxie, of Kansas City, delivered the address in medicine, his subject was arthritis. The presidential address by Dr. A. B. Somers, comprised a review of the progress in obstetrics. The society placed itself on record as endorsing the Owen Public Health bill, as well as condemning the use of all chemical preservations in foodstuffs. A change in the by-laws was affected, giving Omaha and Council Bluffs, the annual meeting alternately. Officers elected: President, Dr Donald Macrae, Council Bluffs; first vice-president, Dr. J. M. Bell, St. Joseph; second vice president, Dr. J. M. Banister, Omaha; treasurer, Dr. Thomas B. Lacey, Council Bluffs; secretary, Dr. Charles Wood Fassett, St. Joseph. St. Joseph was selected as the place for next meeting, March, 1911.

The South-east Kansas Medical Society held its semi-annual meeting in Chanute, September 27.

About 50 doctors were present. The following program was given: "Laryngeal Diphtheria or Membranous Croup, a Case Report." Dr. R. C. Henderson, Erie; "Tonsillectomy," Dr. T. D. Blasdel, Garnett; "The Diseased Faucial Tonsil and Its Treatment," Dr. J. H. Johnson, Coffeyville; "The Prophylaxis of Sexual Diseases," Dr. E. A. Miner, Independence; "A Case of Uterus Septus with Some Unusual Complications," Dr. M. A. Finley, Cherryvale.; "Sexual Plagues," read by title, Dr. H. L. Hopper, Fort, Scott; "Acute Poliomyelitis," read by title, Dr. H. H. Bogle, Pittsburg; "The Surgical Treatment of Ascites," Dr. J. F. Binnie, Kansas City, Mo.

The social needs of the visitors were provided for by an auto mobile ride about the city and a banquet following the program.

Independence was chosen for the next meeting, which will be held early in April.

O. S. HUBBARD, Sec'y.

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Following is the program of the 5th Annual Meeting of the Southwest Medical Association to be held at Wichita, Kansas, October 11-12, 1910. Headquarters will be in the library room of the Scottish Rites Temple. Hotels --Eaton, Hamilton, Manhattan.

General sessions to be held in the Auditorium of the Scottish Rites Temple.

General Program, Tuesday, October 11.—8:00 a. m.—Meeting of Executive Committee in parlor of Hotel Eaton. 9:00 a. m-Called to order by Dr. C. E. Bowers, Chairman Committee of Arrangements. Invocation Rev. W. S. Preist; Addresses of Welcome.—Hon. C. L. Davidson, Mayor of Wichita; Dr. O. P. Davis, President Kansas State Medical Society; Dr. E. J. Oldham, Wichita, Kansas; Introduction of President, Dr. G. H. Moody; Response to Address of Welcome by Dr. T. E. Holland, ex-president, M. A. S. W; Announcements of Committees; 12:00 m.—Caucus of State Delegations for election of five members from each State to serve on Nominating Committee; 7:30 p. m.—Address of President; 8:00 p. m.—Oration on Surgery, by Dr. E. H. Ochsner of Chicago; subject, "Prevention and Treatment of Septic Infection of the Extremities." 8:00 p. m.—Receiving Parlor Scottish Rites Temple, Informal Reception for Visiting Ladies; 9:00 p. m.—Scottish Rites Banquet Hall, Banquet tendered visiting physicians and their ladies by the profession of Wichita.

Wednesday, October 12.—8:00 a. m.—Meeting of Executive Committee, parlor Hotel Eaton: 8:00 a. m.—Meeting of Nominating Committee; 8:30 a. m.—Reports of Officers; Report of Nominating Committee; Election of Officers; 10:30 a. m.—Ladies meet at Scottish Rites Temple and will go for an automobile drive, closing with luncheon at Riverside Club at 1:00 p. m.

Section of General Medicine.—H. M. Lyle, M. D., Kansas City, Mo., Chairman; E. M. Boardman, M. D., Parsons, Kan., vice-chairman; A. W. White, M. D., Oklahoma City, Okla., secretary; Meeting place, Crystal Room, Scottish Rites Temple.

Program. 1. Medical Treatment of Hemorrhoids, Dr. Arthur A. Wills, Oklahoma City, Okla; 2. Colica Mucosa, with Report of Cases, Dr. E. H. Thrailkill, Kansas City, Mo; 3. Puncture Drainage in Odema, Dr. M. L. Graves, Galveston, Texas; 4. The Treatment of Certain Infections of the Skin with Vaccines, Dr. W. H. Mook, St. Louis, Mo; 5. Ptyalism, Dr. C. Travis Drennen, Hot Springs, Ark; 6. Mental Symptoms in Uremia, Dr. W. L. Allison, Fort Worth, Texas; 7. Duodenal Ulcer, with Report of Cases, Dr. C. C. Conover, Kansas City, Mo; 8. Cardiac Murmurs and Their Clinical Significance; Introduction, frequency of Cardiac murmurs; organic murmurs, functional murmurs, the need of systematic, intelligent examination of the heart and a more rational interpretation of Cardiac Murmurs, Dr. Lewis J. Moorman, Oklahoma City, Okla; 9. Pure Milk and Its Possibilities for Infant Feeding, Dr. F. C. Neff, Kansas City, Mo; 10. Epistaxis as met by the General Practitioner, Dr. J. H. Johnson, Coffeyville, Kan; 11. Germo-Phobia, Dr. A. K. West, Oklahoma City, Okla; 12. Psoriasis, Dr. W. J. Frick, Kansas City, Mo.

Section on Surgery.—Chairman, Dr. Wm. Keiler, Galveston, Tex; vice-chm., Dr. D. A. Myers, Lawton, Okla; secretary, Dr. Howard Nill, Kansas City, Mo.

Section in Surgery—Chairman, Dr. Wm. Keiler, Galveston, Texas; Vice-Chairman, Dr. D. A. Myers, Lawton, Okla; Secretary, Dr. Howard Hill, Kansas City, Mo. The Post-operative Care and Treatment of Suprapubic Prostatectomy with Special Reference to the Method of Drainiage, and the Treatment of Shock and Hemorrhage, Dr. D. W. Basham, Wichita, Kan; Post-operative Thrombosis and Neuritis with Report of a Case, Dr. St. Cloud Cooper, Ft. Smith, Ark.; Gynaecology Maxims, Dr. John F. Kuhn, Oklahoma City, Okla.; The Treatment of Patients Desperately Ill in Consequence of Accident (Abstract: Shock, Hemorrhage and Infection), Dr. Charles E. Bowers, Wichita, Kan.; Appendicitis Obliterans—A Clinical and Pathological Study, Dr. A. L. Blesh, (Dr. Reed),

Oklahoma City, Okla.; Methods and Material, the Secret of Success in Local Anesthesia. Dr. Arthur E. Hertzler, Kansas City, Mo.; Gastric Roentgenology, Dr. E. H. Skinner, Kansas City, Mo.; Laceration of the Cervix and Perineum —Immediate and Late, Dr. Frank A. Glasgow, St. Louis, Mo.; Pyloric and Duodenal Obstruction from Extra Gastric Lesions, Dr. Gordon A,. Beedle, Kansas City, Mo.; Extra-Uterine Pregnancy Complicated by Perforation of the Rectum; Report of Case, Recovery, Dr. Fred S. Clinton, Tulsa, Okla.; Colitis, Dr. W. H. Stauffer, St. Louis, Mo.; Symptoms and Diagnosis of Extra Uterine Pregnancy, Dr. H. S. Crossen, St. Louis, Mo.; Treatment of Extra-Uterine Pregnancy, Dr. Walter B. Dorsett, St. Louis, Mo; The Significance of Epigastric Symptoms, Dr. H. C. Crowell, Kansas City, Mo; The Unusual Post-operative History of a Case of Abdominal Section at Which a Diagnosis of Cancer Was Made, Dr. Leroy Long, McAlester, Okla; Gonorrhoeal Infection of the Rectum, Dr. Rollin H. Barnes, St. Louis, Mo.

Section on Eye, Ear, Nose and Throat. Section Meetings to be held in the Egyptian Room, Scottish Rites Temple.

Chairman, Dr. J. F. Gsell, Wichita, Kans; Vice-Chm, Dr. G. W. Maser, Parsons, Kans; Secretary, Dr. H. Coulter Todd, Oklahoma City, Okla. 1. Address of Chairman, Dr. J. F. Gsell, Wichita, Kans ; 2. Indirect Illumination and the Modification of Artificial Light by Colored Glass, Dr. A. W. McAlester, Kansas City, Mo; Discussion opened by Dr. Z. N. Short, Hot Springs, Ark; 3. Why and When Refraction is of Value, Dr. Edward H. Carry, Dallas, Tex; Discussion opened by Dr. J. H. Barnes, Enid ,Okla; 4. A Case of Nasal Polypi, Dr. R. S. Magee, Topeka, Kans; Discussion opened by Dr. Frank Boyd, Fort Worth, Tex; 5. The Possibilities of the X-Ray in Diagnosis of Eye, Ear, Nose and Throat Diseases, Dr. Edward H. Skinner, Kansas City, Mo; Discussion opened by Dr. E. S. Lain, Oklahoma City, Okla; 6. Etiology of Squint, Dr. W. T. Salmon, Oklahoma City, Okla; Discussion opened by Dr. J. S. Litchenberg, Kansas City, Mo; 7. Transferred Opthalmitis, Dr. Jno. O. McReynolds, Dallas, Tex; Discussion opened by Dr. L. Haynes, Buxton, Oklahoma City, Okla; 8. Radical Operations for the Relief of Orbital Complications of Diseases of the Neighboring Sinuses, Dr. H. Moulton, Ft. Smith, Ark; Discussed by Dr. R. H. T. Mann, Texarkana, Ark., and Dr. J. E. Sawtell, Kansas City, Mo.

Obituary.

Dr. John Troutman, aet 65 years, who has practiced medicine for the past twenty years in Kansas City, Kansas, died recently at his old home, Wooster, Ohio, following a surgical operation. He was one of the most successful and respected practitioners of the State and his loss is keenly felt by his colleagues. He was president of the Wyandotte County Medical Society, 1904-5, and a contributor of many articles before that body. He was also a member of the American Medical Association, the American Electro-therapeutic Association and the Kansas Medical Society. A member of the Medical Staff of Bethany Hospital and professor of electro-therapeutics in the Kansas State University. He graduated from the Missouri Medical College, St. Louis, 1877. He leaves a wife and two children to mourn his loss.

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Morris Clifford Hutton, M. D., University of Kansas, Kansas City, 1906; of Kansas City, Kan; physician to the Swift Packing Company; died from gangrene at the Bell Memorial Hospital, Rosedale, Kan., August 31, aged 26.

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MISCELLANEOUS

The New York Herald some time ago placed the average annual income of the profession at $1,250. There have been lower estimates than this even, but the figure named is conservative. This seems a most inadaquate return for ten years of preparation, an outlay of from $7,500 to $10,000 before the student arrives at the age of earning capacity.—New York State Journal of Medicine.

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Dr. W. W. Keen of Philadelphia, has great repute as a surgeon. In New York, one winter afternoon last year, he saw a man slip on an icy pavement and fall heavily. He hastened at once to the poor fellow's assistance, and found that he had broken his leg.

Dr. Keen used his umbrella as a splint, and with his own and several borrowed handerchiefs bandaged the broken limb, tightly. As he finished his task the ambulance arrived.

"You've bandaged this rather well," the young white uniformed ambulance surgeon said to Dr. Keen.

"Thank you," replied Dr. Keen.

"I suppose," the youth continued, "that you have been

reading up some 'First Aid to the Injured' treatise, eh? They say a little learning is a dangerou thing, but really, the little you have learned about surgery you have put to a good account. Give me your name and address and I'll forward your umbrella to you."

"I'll give you my card, "said Dr. Keen. He did so, and the young surgeon flushed as he read upon the card the name of the greatest of modern surgeons.—Critic and Guide.

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A CHINESE TRIUMVIRATE.

According to the Medical Record the doctor, dentist, and barber are powerful factors in Chinese civilization. Once a week the Chinaman visits the barber for a general overhauling. First the head and face are shaved; then the ears are scraped and cleansed with a small brush made of duck's hair; third, the upper and lower eyelids are scraped with a dull edged knife, all granulations being smoothed away, after which a salt solution is applied with a duck's hair brush. It is for this latter reason that so much blindness is found in China. No antiseptic precautions whatever are taken; all instruments are held in the operator's hand when not used. Finally the patient's back is massaged; and latter paying a fee of three cents (and no tip) he leaves the shop feeling clean outside. He next consults the physician. After undergoing the usual examination (a form of military inspection) the case is diagnosed and treated, unless a devil happens to jump down the patient's throat. For this the only remedy that will serve is the setting off of one hundred firecrackers, and a daily visit to the joss house. This done he receives the usual pills for those vacated by the devil; these may consist of spotted rhinoceros horn—a wonderful cure for intestinal troubles; these horns come from southern China and in the Singapore market a single specimen will bring $25. Tiger bones, ground and mixed with Chinese wine make a valued blood tonic much used in northern China among all classes; the receipe is held by a Shanghai firm, which has become very wealthy upon it. Old deer horns are boiled down to make the medicinal glue which binds the fifty ingredients composing the average Chinese pills; in these one may get anything from a pint of gunpowder to cobra tail dust. Of equal medicinal efficiency are three high-grade tiger remedies—the eyeball, liver and blood. The genuine tiger eyeball can be prescribed only for the very wealthy Chinese; similarly the liver, dried and reduced to a powder, is worth its weight in gold; tiger blood, evaporated to a solid at a high temperature is believed by Asiatics

to transform a craven into a hero. Finally the dentist is looked up: this professional will be found on any street corner in all large Chinese cities. He is very impressive by reason of his seriousness; always reading and thinking of his collection of some 2,000 teeth on a table, and a few bottles of some secret drugs said to contain the moisture of the inner side of an old coffin collected after a ten year's burial. The dentist is China is called a boxer; for he is supposed to have great strength in his arms and hands.—American Medicine.

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CLINICAL NOTES

Three Points ot Importance in Intestinal Obstruction.—Dr. W. J. Mayo (Lancet-Clinic) says: "In acute intestinal obstruction I think there are three points so important that every surgeon of large experience must have had them brought to his mind time and again. First, do not give cathartics to a patient if you suspect intestinal obstruction. I have noticed particularly that the cases that have been brought to us practically in moribund condition, have had catharsis early, and thereby their chances of recovery have been diminished to a very serious extent. Second, do not give opium, because it masks the symptoms, and our only hope of recovery from operation lies in getting the patient to operate on early. Third, do not give food.—American Medicine.

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Poliomyelitis.—The pathology and bacteriology of acute poliomyelitis are discussed in a communication in the Journal A. M. A., September 17, byH. E. Robertson and A. J. Chesley, Minneapolis. Dr. Robertson gives a review of the literature and reports 6 cases with autopsy. From these he deduces the following: "1. Acute anterior poliomyelitis is a specfic infectious disease characterized pathologically by general toxemia affecting the parenchyma of the heart, liver and kidneys and the lymphoid tissues of the body, but spending itself locally on the structures of the spinal cord. 2. Grossly the cord is congested, and on transverse section shows softening and often hemorrhages in the gray matter of the anterior horns. 3. In the cord the infectious agent is located in the perivascular lymph channels of the anterior portions, especially invading the gray matter, but extending to the white matter and pia and occasionally the posterior horns. The brain stem and basal ganglia may be involved. In the cord the medulla and cervical and lumbar swellings are particularly affected. 4. The characteristic lesion consists of collections of cells in the

perivascular and pial lymph channels and tissue spaces of the anterior horns. Of these cells the polymorphonuclear leukocytes appear early and are relatively few in number. They are soon displaced by endothelial cells arising from proliferation of the lining endothelium and lymphocytes coming from the blood and lymph streams. 5. Edema of the interstitial tissue and degeneration and destruction of the ganglon cells are always present. 6. The vessels are congested, their walls degenerated and the capillary branches in the gray matter irregularly distended and often ruptured, giving rise to hemorrhages, which always intensify markedly the amount of destruction. Thrombosis was not observed. 7. Early degeneration of nerve fibres from the anterior roots is a constant feature. 9. Stains for micro-organisms were uniformly negative." The bacteriologic part of the report is made by Dr. Chesley. The observations and experiments appear to have been made with great care. Both lumbar puncture and specimens from autopsies were employed, as well as one inoculation into a monkey and numerous similar ones in rabbits. The experimental work confirms the opinion already expressed by other observers that Geirsvold's diplococcus is not a causative factor in the disease. The authors look forward for the solution of the etiologic problem by the workers of the Rockfeller Institute, whose labors have already been so fruitful in enlightening us as to this disease.

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Strangulated Hernia.—Van Assen of Lanz's clinic in Amsterdam (Beitrage zur klinischen Chirurgie, Bd. 65, Heft 2) reports upon his experience with 100 cases of strangulated hernia. Of this number 33 were inguinal, 27 in males and 6 in females; 60 femoral, 8 in males and 52 in females; 4 umbilical, all females; 1 epigastric, female. As a rule the patients were operated upon as soon as they were admitted to the hospital; only in 8 cases of omental hernia was operation postponed, for one or more days. In children, as a rule, an effort was made to secure reduction by elevation of the pelvis for several hours. If this did not succeed, operation was performed without delay. There were but two deaths. In eight cases there was feculent vomiting, and in five other cases the fluid in the hernial sac was malodorous. One patient was only six days old, four were under a year, eighteen between sixty and seventy, seventeen between seventy and eighty, and three over eighty years of age. In veiw of the fact that these ages would naturally add to the gravity of the affection the low death-rate is worthy of remark. Usually in inguinal hernia the radical

operation of Bassini was done; more lately that of Postempski. Sixty-one cases were operated upon under local anesthesia; in six cases operation was begun under local but had to be finished under general anesthesia.

The author's conclusions are as follows: Every strangulated hernia should be operated upon as soon as possible without effort at reduction by taxis, because even in the early hours of strangulation taxis is dangerous, whereas the results of operation are almost always ideal. In active syphilis or infection of the field of operation, however, if there is no special contra-indication, taxis should be tried before resort is had to operation. In small children, if there is no general restlessness, an attempt should be made to bring about reduction by elevation of the pelvis. Strangulated hernia should as a rule be operated upon under local anesthesia. —Theropeutic Gazette.

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Vaccine Therapy.—C. L. McDonald, Cleveland, Ohio (Journal A. M. A., March 19), reports his experience with vaccine therapy in various classes of cases. He has followed the methods of Wright, except that he usually omitted the estimation of the opsonic index as a routine measure, employing it only in cases in which the clinical rules are not a sufficient guide. He finds no hard and fast rule as to dosage can be given, as different strains of bacteria vary as to degree of virulence, as does the susceptibility of individual patients. Generally speaking, the more acute the infection the smaller the dose. In chronic cases, on the other hand, enormous doses may be required. In a case of staphylococcic pustular acne, for example, it is his custom to inoculate with an initial dose of 200,000,000 staphylococci and he instructs the the patient to return at the end of seven days. If then his pustules are fewer in number and smaller and more superficial, he is instructed to return three days later. If at this time he says his face is not so clear as it was on the ninth day, he is reinoculated and instructed thereafter to return every eighth day, assuming that at this time his immunity has reached its height and by reinoculation will be kept there. The initial dose is kept up until improvement lags, when it is doubled. In case of mixed infection, as with a staphylococcus and pneumococcus, he makes a smear from the discharge,estimates the proportions of the two organisms present and holds to this ratio in inoculating the patient with the corresponding vaccines. Ocassionally the estimation of the opsonic index will have to be employed. While rapid results may follow a first inoculation, the latter ones may not be so satisfactory, and

he finds the best results obtained by beginning, with a minimum dose and increasing as described above. He divides his cases into four classes according to their type, duration, severity, and amenability to therapeutic immunization, as follows: Class A, subacute infections, with pyemia as a type. Class B, chronic infections, with pustular acne or otitis media as a type. Class C. acute localized infection, with erysipelas or acute cystitis as a type. Class D, acute general infection, septicemia as a type. Of these, the first two are the most amenable to bacterial therapy. In the second class, the results were satisfactory, though not so uniformly good as in Class A, owing to the facts of their long continuance and the thick walls of some of the sinuses. At least 40 per cent. of the patients were permanently cured, 50 per cent. were improved, while 5 per cent. are slightly benefited, and the remaining 5 per cent. are failures. In acute rapidly spreading infections, such as are included in Class C, the vaccines were not effective, but if the opsonic index was relatively high, vaccines in small doses repeated every other day were capable of doing good. The large number of spontaneous cures in erysipelas renders the vaccines treatment inappropriate as routine treatment and it should as a rule be reserved, in the author's opinion, for cases running an unusually long course, or those accompanied by abscesses. In Class D, acute general infections, vaccine treatment is of no use. What, McDonald asks, can be gained by inoculation of the patient with a few million more dead bacteria when he has an over-abundance of them already in the blood stream?

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MEDICINAL TREATMENT OF SUB-ACUTE AND CHRONIC GOUT.—The Canadian Journal of Medicine and Surgery for January, 1910, editorially d'scusses this subject:

As gouty subjects are more prone to suffer from the injurious effects of constipation, of even a slight degree, than are non-gouty individuals, purgatives should be combined with colchicum in the treatment of gout. From personal experience we can recommend a pill made of half a grain of extract of colchicum, half a grain of podophyllin, and two grains of extract of aloes, the dose to be repeated according to the requirements of the case. A milder remedy than colchicum is guaiacum resin, which may be given as an alterative to stimulate the metabolism of the liver, and relieve an engorged portal system. From five to ten grains of guaiacum should be given in cachets two or three times a day, according to its effect on the bowels, since guaiacum sometimes acts as a laxative. The method of giving powdered guaiacum in cachets is

preferable to giving the tincture of guaiacum in a mixture, as in the latter form a nauseous medicine is produced and the precipitated resin tends to cling to the tongue and fauces of the patient. Free diuresis should be produced by the drinking of sufficient quantities of pure water. The citrate of potassium or the bicarbonate of potassium may be also used with advantage as a diuretic to encourage the elimination of the toxic agents of gout. The potassium salt is converted into a carbonate in the kidneys and serves to diminish the acidity of the urine, which is generally high in connection with the gouty paroxysm, while, at the same time, it increases the solvent power of the urine for the uric acid salts, and so assists in their elimination.

In cases of sluggish action of the liver, gastrointestinal catarrh and torpor, gouty dyspepsia and other forms of irregular gout, in which there are no appreciable uratic deposits in the joints, the moderate use of mineral waters containing sodium salts is beneficial, owing to the action of these salts as hepatic and gastrointestinal stimulants. As much cannot be said for lithia salts, which are very much used as remedies for gout. The principal objections to lithia are its toxicity and its depressing action on the heart. To offset these dangerous characteristics, it is used in such small doses that any real therapeutic effect from it is open to serious doubt. The regular use of lithia as a curative for the the gouty diathesis is not good practice.

In marked cases of the gouty diathesis, the joints, especially the joints of the hands and feet, become enlarged and tender owing to two causes: the deposition of sodium biurate in the cartilages and fibrous tissues of the affected joints, and a chronic inflammation thickening of the fibrous tissues of these joints. For the reduction of this thickening, as well as for painful gout of the foot, and for gouty neuralgic affections, iodide of potassium may be administered internally in doses of ten grains three times a day, and this medication ought to be continued for a considerable time.

Plethora from high living and lack of exercise induces a rise of blood-pressure, which, if long continued, causes an injurious strain on the arterial walls. Hence the necessity of a spare diet in gout, together with moderate exercise in the open air. The occasional use of the colchicum pill mentioned above, by eliminating toxins, will tend to prevent arterial diseases and recurrences of gouty paroxysms.—Therapeutic Gazette.

DR. M. L. PERRY,
President Southwest Medical Association, 1910-11.